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EXPERIMENTAL STUDY OF WATER DROPLET COLLISIONS IN LOW GRAVITY

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An experimental setup for the study of droplet collisions in a drop tower is presented. Opposed injectors are placed inside a test tank filled with air. We remotely control liquid and gas flow rates, which determine the droplet velocity. A high-speed camera records the collision zone illuminated by an array of LEDs. Experiments have been performed at the INTA 2.1 seconds drop tower. We present preliminary results on the collision between distilled water droplets. The size and the oscillation frequency of the droplets have been studied. A comparison with results obtained on ground is also presented.